

17/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT -- RENEWAL  
NSPS SOURCE

PERMITTEE

ANR Pipeline Company  
Attn: Stephen E. Morales  
Nine Greenway Plaza, Suite 1628  
Houston, Texas 77046

Application No.: 80040029

I.D. No.: 197800AAQ

Applicant's Designation: JOLIET

Date Received: May 11, 2001

Subject: Gas Fired Turbines

Date Issued: November 27, 2002

Expiration Date: November 27, 2007

Location: Young Road and Route 6, Joliet

This Permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of a 1,343 hp gas turbine, a 3,888 hp gas turbine, a gas fired boiler, a gas fired emergency generator, and storage tanks pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., 100 tons/year for NO<sub>x</sub> and 25 tons/year for VOM). As a result the source is excluded from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permits issued for this location.
- 2a. The 1,343 hp gas turbine is subject to New Source Performance Standard (NSPS) for gas turbine, 40 CFR 60, Subpart A and GG. The Illinois EPA is administering NSPS in Illinois on behalf of the United States EPA under a delegation agreement.
  - b. The nitrogen oxides and sulfur dioxide emissions from the 1,343 hp turbine shall not exceed the limits of 40 CFR 60.332 and 60.333 respectively, pursuant to the New Source Performance Standard.
  - c. At all times, the Permittee shall also, to the extent practicable, maintain and operate the gas turbine, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions.

- 3a. Emissions and operation of equipment shall not exceed the following limits:

<u>Item of Equipment</u>	<u>Gas Usage</u>		<u>NO<sub>x</sub> Emissions</u>		<u>VOM Emissions</u>	
	<u>(mmcf/Mo)</u>	<u>(mmcf/Yr)</u>	<u>(T/Mo)</u>	<u>(T/Yr)</u>	<u>(T/Mo)</u>	<u>(T/Yr)</u>
Turbine 1 (3,888 hp)	50	387	9.80	75.88	2.79	21.62
Turbine 2 (1,343 hp)	17	133	2.18	17.07	0.23	1.77
Boiler (2.9 mmBtu/Hr)	3	21	0.15	1.05	0.01	0.06
Generator (200 kW)	0.2	1.3	0.40	2.48	0.05	0.33
		Total	12.53	96.48	3.08	23.78

These limits are based on manufacturer emission factors for the turbines, stack test for the generator, AP-42 emission factors for the boiler and maximum usage of natural gas for each equipment.

- b. Emissions and operation of equipment shall not exceed the following limits:

<u>Item of Equipment</u>	<u>Gas Usage</u>		<u>CO Emissions</u>		<u>PM Emissions</u>	
	<u>(mmcf/Mo)</u>	<u>(mmcf/Yr)</u>	<u>(T/Mo)</u>	<u>(T/Yr)</u>	<u>(T/Mo)</u>	<u>(T/Yr)</u>
Turbine 1 (3,888 hp)	50	387	2.05	15.86	0.17	1.28
Turbine 2 (1.343 hp)	17	133	0.70	5.45	0.06	0.44
Boiler (2.9 mmBtu/Hr)	3	21	0.13	0.88	0.01	0.08
Generator (200 kW)	0.2	1.3	0.01	0.02	0.002	0.01
		Totals:	22.21		1.81	

- c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data from the previous month plus the preceding 11 months (i.e., a 12 month running total).
4. Monitoring of fuel nitrogen content shall not be required while natural gas is the only fuel fired in the gas turbine.
5. Sulfur Monitoring:
- a. Analysis for fuel sulfur content of the natural gas shall be conducted using one of the approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternative method. The reference methods are: ASTM D1072-80; ASTM D3031-81; ASTM D3246-81; and ASTM D4084-82 as referenced in 40 CFR 60.335(b) (2).
  - b. Effective date of this custom schedule, sulfur monitoring shall be conducted twice monthly for six months. If this monitoring shows little variability in the fuel sulfur content, and indicates consistent compliance with 40 CFR 60.333, then sulfur monitoring shall be conducted once per quarter for six quarters.

- c. If after the monitoring required in item (b) above, or herein, the sulfur content of the fuel shows little variability and, calculated as sulfur dioxide, represents consistent compliance with the sulfur dioxide emission limits specified under 40 CFR 60.333, sample analysis shall be conducted twice per annum. This monitoring shall be conducted during the first and third quarters of each calendar year.
  - d. Should any sulfur analysis as required in items (b) or (c) above indicate noncompliance with 40 CFR 60.333, the owner or operator shall notify the Illinois EPA of such excess emissions and the custom schedule shall be re-examined by the Illinois EPA. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
6. If there is a change in fuel supply, the owner or operator must notify the Illinois EPA of such change for re-examination of this custom schedule. A substantial change in fuel quality shall be considered as a change in fuel supply. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
7. The Permittee shall maintain records of the following items:
  - a. Gas usage for each turbine (mmcf/month and mmcf/year);
  - b. Emissions of NO<sub>x</sub> and VOM for each turbine (tons/month and tons/year);
  - c. Gas usage for the boiler (mmcf/month and mmcf/year);
  - d. Emissions of NO<sub>x</sub> and VOM for the boiler (tons/month and tons/year); and
  - e. Hours of operation for the generator (hours/month and hours/year).
8. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.
9. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.

10. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Compliance Section (#40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
9511 West Harrison  
Des Plaines, Illinois 60016

11. The Permittee shall submit the following additional information with the Annual Emissions Report, due May 1st of each year: natural gas usage for each turbine. If there have been no exceedances during the prior calendar year, the Annual Emission Report shall include a statement to that effect.

If you have any questions on this, please call John Blazis at 217/782-2113.

Donald E. Sutton, P.E.  
Manager, Permit Section  
Division of Air Pollution Control

DES:JPB:psj

cc: Illinois EPA, FOS Region 1  
Illinois EPA, Compliance Section  
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the compressor station operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. This is burning 542.3 million cubic feet of natural gas. The resulting maximum emissions are well below the levels, i.e., 100 tons per year of NO<sub>x</sub> and 25 tons of VOM at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled, and control measures are more effective than required in this permit.

1. Emissions of nitrogen oxides:

<u>Item of Equipment</u>	<u>Fuel Usage</u>		<u>Emission Rate</u>	<u>NO<sub>x</sub> Emissions</u>	
	<u>(mmcf/Mo)</u>	<u>(mmcf/Yr)</u>	<u>(Lb/mmcf)</u>	<u>(T/Mo)</u>	<u>(T/Yr)</u>
Turbine #1 (3,888 hp)	50	387	392.1	9.80	75.88
Turbine #2 (1,343 hp)	17	133	256.6	2.18	17.07
Boiler (2.4 mmBtu/hr)	3	21	100.0	0.15	1.05
Generator (200 kW)	0.2	1.3	3,815.4	0.31	2.48

These limits are based on manufacturer emission factors for the turbines, AP-42 emission factors for the boiler and maximum usage of natural gas for each equipment.

2. Emissions of volatile organic material:

<u>Item of Equipment</u>	<u>Fuel Usage</u>		<u>Emission Rate</u>	<u>VOM Emissions</u>	
	<u>(mmcf/Mo)</u>	<u>(mmcf/Yr)</u>	<u>(Lb/mmcf)</u>	<u>(T/Mo)</u>	<u>(T/Yr)</u>
Turbine #1 (3,888 hp)	50	387	111.7	2.79	21.62
Turbine #2 (1,343 hp)	17	133	26.5	0.23	1.77
Boiler (2.4 mmBtu/hr)	3	21	5.5	0.01	0.06
Generator (200 kW)	0.2	1.3	507.7	0.05	0.33

These limits are based on manufacturer emission factors for the turbines, AP-42 emission factors for the boiler and maximum usage of natural gas for each equipment.

3. Emissions of carbon monoxide:

<u>Item of Equipment</u>	<u>Fuel Usage</u>		<u>Emission Rate</u>	<u>NO<sub>x</sub> Emissions</u>	
	<u>(mmcf/Mo)</u>	<u>(mmcf/Yr)</u>	<u>(Lb/mmcf)</u>	<u>(T/Mo)</u>	<u>(T/Yr)</u>
Turbine #1 (3,888 hp)	50	387	82	2.05	15.86
Turbine #2 (1,343 hp)	17	133	82	0.70	5.45
Boiler (2.4 mmBtu/hr)	3	21	84	0.13	0.88
Generator (200 kW)	0.2	1.3	29.6	0.01	0.02

These limits are based on AP-42 emission factors and maximum usage of natural gas for each equipment.

4. Emissions of particulate matter:

<u>Item of Equipment</u>	<u>Fuel Usage</u>		<u>Emission Rate</u>	<u>NO<sub>x</sub> Emissions</u>	
	<u>(mmcf/Mo)</u>	<u>(mmcf/Yr)</u>	<u>(Lb/mmcf)</u>	<u>(T/Mo)</u>	<u>(T/Yr)</u>
Turbine #1 (3,888 hp)	50	387	6.6	0.17	1.28
Turbine #2 (1,343 hp)	17	133	6.6	0.06	0.44
Boiler (2.4 mmBtu/hr)	3	21	7.6	0.01	0.08
Generator (200 kW)	0.2	1.3	19.4	0.002	0.01

These limits are based on AP-42 emission factors and maximum usage of natural gas for each equipment.

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